

BUILDING PERMIT PROCEDURES AND MINIMUM PLAN REQUIREMENTS FOR RESIDENTIAL PROJECTS

BUILDING DIVISION

This document is intended to provide procedures for developing a complete residential building permit application with minimum plan requirements for submittal.

PLEASE NOTE: It is advised that the applicant receive necessary approvals to assure compliance with **Planning and Zoning**, the **Public Health Services District**, and the **Public Works** departments, prior to developing plans and working drawings before a Building Permit can be issued. To assure this compliance, the applicant should submit complete scaled site plans, preliminary floor plans, and elevation certificates.

Complete the Application Form. Application forms will only be accepted if all requested information is supplied or acceptable provisions are made. Completed applications shall be submitted to the Building Division of the Department of Community Development, 2500 North Ft. Valley Road, Building 1, Flagstaff, Arizona 86001 (telephone 928-679-8850).

The following shall be provided in addition to the required applications:

I. Non-Refundable Deposits

Make checks payable to **COCONINO COUNTY COMMUNITY DEVELOPMENT**

- | | |
|-------------------------------------|----------|
| • Custom Home over 3000 square feet | \$500.00 |
| • Single Family Dwelling | \$300.00 |
| • Additions, Remodels, Garages, | \$100.00 |
| • Large Decks, Carports, Sheds | \$ 50.00 |
| • Small Decks | \$ 25.00 |

II. Other Required Agency/Department Approvals

A. Planning & Zoning Approval

Applications and plans submitted for building permits shall be approved by the Planning and Zoning Division, in accordance with the Coconino County Zoning Ordinance before the Building Permit will be accepted or reviewed. A review includes legality of the property, property identification (Assessor Parcel Number), property access, setbacks compliances, correct zoning for use, lot coverage, flood plains, lighting, signage, parking, landscape, design review overlay, zoning violations, size of structures, and distances to other homes.

Other required approvals from Planning and Zoning may include: conditional use permits, variances, administrative adjustments, temporary use permits, land division permits, split/combination applications, zone changes, design review overlays, abandonments, home occupations, cottage industries, guest homes, group homes, bed and breakfasts, sign permits, lighting permits, fence requirements, landscaping plans, agricultural uses for animals, area plans, Flagstaff regional plans, comprehensive plans, and energy elements.

B. Septic Permits or Sewer Availabilities

1. All construction shall be reviewed by the Environmental Services Division of the Public Health Services District, before a building permit will be issued.
2. Some areas with community sewer require proof of available sewer such as Pinewood, and Kachina Village, Other community sewer systems may not require approvals.
3. In the event that the Arizona State Department of Environmental Quality (ADEQ) is involved in the approval and issuance of the Alternate Waster Water System Permit it is still required to submit to the Public Health Services District - Environmental Services for permit tracking and sign off approval on the building permit.
4. For more information contact the Public Health Services District – Environmental Services Division, 2500 North Fort Valley Road, Bldg. 1, Flagstaff, AZ 86001-1287
Phone: (928) 679-8764

C. Public Works – Encroachment, Grading/Excavation and Hydrology Permits FOR NEW CONSTRUCTION

1. The Encroachment Permit Application must be submitted with the Building Permit Application and include an additional scaled site plan for Public Works.
2. Any improvements within the county right-of-way (such as landscapes, fences, monuments, retaining walls, asphalt or concrete parking areas, pipe headwalls, etc.), require an Encroachment Permit are subject to review, and must comply with current county standards.
3. A Grading Permit Application must be submitted with the Building Permit Application and include an additional scaled site plan and Grading and Drainage plans.
4. The County Public Works Department requires a Hydrology Review (surface water drainage. The County Hydrologist's review provides information to the owner/contractor regarding the impact of the site's drainage on construction, or drainage resulting from construction that may impact adjacent properties. The County Hydrologist will present the applicant (in writing) with the findings of the review and any drainage requirements or modifications for the site.
5. Submit the Hydrology application, the Building Permit application, and one additional site plan (for the Hydrologist) to the Building Division. The Hydrology Review and Grading and Drainage review are on one application.

The **Coconino County Public Works Department** is located at 5600 East Commerce Avenue, Flagstaff, Arizona 86004; telephone (928) 526-2735. **All applications are available at the Community Development Department counter, the Public Works Department, or the Public Portal.**

D. COCONINO COUNTY SUSTAINABLE BUILDING PROGRAM

The Coconino County Sustainable Building Program (CCSBP), housed in Community Development, provides the opportunity to design and build beyond the International Energy Conservation Code (IECC). Projects that participate in the program can benefit from reducing the use of energy, water, and resources, as well as increasing healthier indoor and outdoor environments.

Free services provided by the Sustainable Building Program include: consultations, resources, educational programs, plan reviews, field inspections, code support for conventional and alternative constructions, and the Sustainable Building Awards Program.

For more information, please contact the Sustainable Building Program at (928) 679-8850.

III. TIME LIMITATIONS AND CODES USED

- A. Building permits for new home constructions are valid for three years. Inspections shall be performed every six months. If the structure is not complete after three years, a renewal permit shall be required at the cost of the original permit (excluding plan review, mechanical, plumbing, and electrical fees). The original permit may be renewed a maximum of two times, for a total of nine years. At the end of nine years, the permit will be null and void, causing temporary occupancy and all other permitted uses to be revoked.
- B. Permits for additions, alterations, and accessory structures are valid for two years, and may be renewed a maximum of two times, for a total of six years.
- C. Building permits may be renewed for one year, at one-half the original fee (excluding plan review and sub-trade permit fees).
- D. **Permits that are not picked up and paid for within 180 days of notification are considered "ABANDONED" and will not be kept by the building division (International Residential Code, Section R105.3.2).**

The following codes are used by the Coconino County Building Department: 2006 International Building Code, 2006 International Residential Code, 2006 International Mechanical Code, 2006 international Fuel Gas Code, 2006 International Plumbing Code, 2006 International Energy Conservation Code, and 2005 National Electrical Code (see Coconino County Building ordinance 07-12).

IV. RESIDENTIAL PLAN REQUIREMENTS

To process a Building Permit Application two (2) complete sets of plans shall be submitted containing site plans and construction plans for plan review. One set of APPROVED PLANS is kept on file and the other is returned to keep on the job site. The returned set, stamped APPROVED PLANS will contain any corrections indicated as Red-line comments, which are revised to meet minimum code for approval of your project. Additional site plans and floor plans are required as indicated below.

A. SITE PLANS REQUIREMENTS

SITE PLANS are required to be submitted with all building permit applications. Incomplete site plans will be not be accepted. A checklist will be provided at the time of building permit submittal to ensure all elements are provided and will require signature by applicant to verify all information to be true and correct.

NOTE: Public Health Service District, and Public Works (Hydrology, Grading and Encroachment), approvals are required and the following to be submitted.

- 1. Public Health Service District Septic Approval: One (1) Copy of the site plan and One (1) extra copy of the floor plan are required at time of permit submittal.
- 2. Hydrology: One (1) copy of the site plan is required with the Hydrology application.
- 3. Public Works Grading and Drainage: One (1) copy of the site plan and One (1) copy of Grading and Drainage Plan is required with the Grading and Drainage application for residential projects.
- 4. Public Works Road Encroachment: One (1) copy of the site plan is required with the Right of Way application.

**NOTE: To contact the Public Health Service District: telephone (928) 679-8764.
To contact the Public Works Hydrologist: telephone (928) 679-8881
To contact Public Works: telephone (928) 679-8300**

B. SITE PLANS SHALL INCLUDE AT LEAST THE FOLLOWING INFORMATION:
INDIVIDUAL DEPARTMENTS MAY REQUIRE ADDITIONAL DETAILS

1. **SITE PLAN – MUST BE DRAWN TO SCALE:** **1" = 10'** for parcels of less than 1 acre, **1" = 20'** or **1" = 30'** for parcels of one acre up to 2 1/2 acres and **1" = 40'** or **1" = 50'** for parcels over 2 1/2 acres. For parcels that exceed 2 1/2 acres or of irregular shape, site plan overviews at scales of **1" = 100'** are required along with an inset plan of the structure(s) and on-site sewage system at one of the scales identified above.
2. Certain subdivisions may have Home Owner Associations (HOA). That shall require the plans to be approved by the Association prior the Building Permit Application. To determine if subject property is in such a subdivision **See Home Owner Association Approval list below.**

C. GENERAL PROPERTY INFORMATION:

1. Show the entire property (parcel) by the plated property lines; include all property dimensions; and street(s) labeled.
2. Show the minimum required **setback lines** (front, sides and rear) conforming to the zoning district. This information is available from Community Development Planning and Zoning Division.
3. Direction of slope on property and the direction of natural drainage - accurate topography may be required when necessary.
4. Slopes that exceed 15%, including any cut banks greater than 4' in height.
5. North arrow and site plan scale.
6. Streams, creeks, washes and floodplains.

D. EXISTING PROPERTY IMPROVEMENTS:

1. Location of all existing structures. Label all structures, show dimensions from structure to property lines and distances between structures
2. Location of all existing wells.
3. Location of all existing drainage facilities.
4. Location of all existing septic tanks, leach fields and sewer lines.
5. Location of all existing driveways.
6. Location of all ingress and egress easements and utility easements (when applicable).

E. PROPOSED PROPERTY IMPROVEMENTS:

1. Location and dimensions of all proposed structures in relation to property lines and other structures. Label all proposed structures and cross hatch for clarity.
2. Location of all proposed wells.
3. Location of all new septic tanks, leach fields and sewer lines.
4. Location of all new driveways and road improvements including type of material.
5. Show all utility connections and line directions:
 - a. Septic tank and Leach field location, reserve area and sewer line locations.
 - b. Water line location.
 - c. Gas line location.
 - d. Liquid propane gas tank location or natural gas meter location (dimension).
 - e. Underground liquid propane tank location (dimension).
 - f. Air conditioner location.
 - g. Electric meter location.
6. Retaining wall locations. Areas to be filled (fills in excess of 4' shall be engineered).
7. Fence locations. Describe type and height of fence.

F. **A SURVEY OF THE PROPERTY BY A REGISTERED LAND SURVEYOR IS REQUIRED IF ANY OF THE FOLLOWING APPLY:**

1. The proposed construction is for a new structure, or an addition to an existing structure within a Special Floodplain Hazard area.
2. If the property is 1/2 acre or smaller.
3. If the structure is to be built on a minimum setback line.
4. When the Building Official requires verification that the location of the structure (s) is in accordance with the approved plans (2006 International Building Code and 2006 International Residential Code R-106.1.1).

V. **FOUNDATION PLAN** -- Scaled 1/4" equals one (1) foot

- A. Fully dimensioned two-line drawings -- show all foundations, footings, stem walls, piers, interior and exterior, fireplace, columns and Braced Wall Line Footings; decks and accessory building foundations.
- B. Crawl space or basement:
1. Stem wall with footing locations.
 2. Piers with footing locations, including deck piers.
 3. Crawl space access 18" x 24" minimum, with door and foundation vents. Under floor venting, 1 square foot per 150 square feet of area and one vent shall be installed within 3' of each corner.
 4. Concealed Crawl Space may be installed in accordance to the 2006 International Energy Conservation Code. Foundation Vents are required but may be covered over for this type of crawl space application.
- C. Slab Floor: type of 4" compacted material.
1. Material used as fill.
 2. Thickness of slab on grade, (5 inches of thickened slab is required when in-floor heat pipe is installed).
 3. Interior bearing wall, post and column footings and Braced walls line (Thickened slab with 1/2" x 10" anchor bolts at 4 ft. on center and 12" from ends).
 4. Plumbing drains and vents locations, second floor drain, water lines outlet locations. If you are planning to design to the 2006 International Plumbing Code, A drainage pipe plumbing schematic shall be required, Showing Pipe Sizes, Length of Runs, Wet Vent Locations, Type of Fittings and Labeled Where and What Type of Fixtures Used. (Optional - for layout of under slab plumbing)
 5. Specify in floor heating with details.
 6. Under slab duct runs with material type and installation methods.
 7. Electric circuits with conduit and installation methods.
 8. Air Admittance Valves are **NOT ALLOWED**.

VI. **FIRST FLOOR FRAMING PLAN** -- Scaled 1/4" equals one (1) foot

NOTE: Manufactured floor truss system or I-joist floor system. The owner/contractor shall supply the specifications at time of building plan submittal.

- A. Girder size and direction indicate length of span.
- B. Load bearing members, direction, sized and labeled. Show the points of concentrated bearing from above.
- C. Floor joist sizes, spacing and direction.
- D. Blocking locations.

- E. Beam pocket: 1/2" air space. Girder on pressure treated wood or steel plate and anchored in reinforced grouted cell.
- F. Under floor appliance location.
- G. Framing of all exterior decks.
- H. Wood posts on porch, basement and garage slabs shall be 1" above adjacent slab. Use stand-off post base.
- I. A 2" minimum clearance from framing to masonry fireplace and chimney.

VII. **FLOOR PLAN** -- Each floor including basements, scaled 1/4" equals one (1) foot

- A. Fully dimensioned two-line drawings (show all walls with openings and posts, rooms, halls, stairs, etc. Label all rooms and spaces.
- B. Structures located in Seismic Design Categories Do, D1 and D2 shall have exterior and interior braced wall lines. **IRC R602.10.11**
- C. Spacing between braced wall lines in each story shall not exceed 25' feet on center in both the longitudinal and transverse directions. **IRC R602.10.11.1**

Exception: In one- and two-story buildings, spacing between to adjacent braced wall lines shall not exceed 35' feet on center in order to accommodate one single room not exceeding 900 square feet in each dwelling unit. Spacing between other braced walls lines shall not exceed 25' feet.

D. Door and window locations and sizes:

- 1. One 3'0-6'8 swing type exit door is required as the primary exit, and one 3'0-6'8 swing type door is required at any floor at grade.
- 2. Secondary exit doors and doors into garages from house, 2'8-6'8 minimum.
- 3. Safety glass - human impact locations:
 - a. Tub and shower enclosures, within 60" of the floor.
 - b. Within 24" of doors.
 - c. Glass greater than 9 square feet within 18" and more than 36" above floors, within 36" horizontal of walking surfaces.
 - d. Glass within 36" horizontally of the top step of stairs or 60" horizontally of the bottom tread of the stairway.
- 4. Natural light and ventilation -- windows to provide 8% the floor area for light, and 4% for ventilation. Bathrooms - operable window 3 square feet one-half of which must be operable.
- 5. Door and window schedules - optional.
- 6. All windows shall be of Low-E Type and comply with the U-Factor of 0.35 maximum.
- 7. When metal or aluminum windows are used they shall be Low-E with a thermal break and the U-Factor shall be 0.45 maximum. Exception: Windows used for the installation of glazing for passive solar design located on the south side.
- 8. Skylights shall have a U-Factor of 0.60 maximum.

E. Emergency exit windows:

- 1. One per bedroom or any room that could be used as a bedroom or sleeping room.
- 2. Unfinished basements: one per area that could be turned into bedrooms with a minimum of two.

F. Minimum Requirements for Emergency Escape and Rescue Openings:

1. 5.7 square feet clear operable (minimum)
 2. 20" wide and 24" high (minimum dimensions)
 3. 44" maximum sill height. The measurement shall be taken from the floor to the bottom of the clear opening of the window.
 4. 5.0 square feet clear operable (Grade floor openings) within 4' – 0" of adjacent grade below.
- G. Use 1/2" gypsum board under enclosed stairs. 1/2" sag-resistant gypsum board on ceiling when supports are 24" O.C. or use 5/8" gypsum board.
- H. 5/8" type X gypsum board separation between house and garage (all walls and ceiling), with a 1-3/8" solid core, tight fitting (gasketed) self-closing door, and other openings protected. Ducts, piping, conduit and electric boxes shall be metal or one hour rated. Duct openings in garages shall have fire dampers. When livable space is above the garage use 5/8" type X gypsum board on supports 16" O.C. or 2 layers of 5/8" type X gypsum board on supports 24" O.C.
- I. 20" x 30" minimum attic access: All separated areas with a minimum 30" head room. Fire resistive attic accesses through garage ceiling common with house -- 5/8" type X gypsum board glued and screwed to 3/4" plywood.
- J. Stairs, hallways, passageways and interior balconies requires 36" minimum width. Show guardrail and handrail locations. Open sides of decks, balconies and stairs, 30" or more above grade or floor, shall have guardrails. Stairs with four or more risers shall have one handrail. There shall be a 36" x width of stairs floor or landing at the bottom of stairs before a deck.

NOTE: The installation of a diagonal riser that cuts a landing into two (2) treads shall not be allowed. 2006 International Residential Code, Section R311.5.

- K. Show all exterior decks. Decking boards shall have a 1/8" maximum space to allow for 1/4" maximum spacing after shrinkage. Exception: composite material may be placed at 1/4" maximum spacing.
- L. Appliance and cabinet locations – labeled the following (if applicable):
1. Range or cook top and oven, range hood.
 2. Dishwasher.
 3. Garbage disposal.
 4. Refrigerator.
 5. Microwave oven.
 6. Compactor.
 7. Washer and dryer.
 8. Kitchen and bathroom cabinets and counter tops.
 9. Freezer.
 10. Built-in cabinets, desks and bookshelves.
- M. Plumbing fixture locations: sinks, water closets, urinals, bidets, tubs, showers, spas, hose bibs, pumps, tanks, lawn and fire sprinklers, and fountains, etc.
- N. Indicate 2" x 6" plumbing walls and dryer and mechanical vent chases. Show fur-down areas for ducts, piping and other mechanical. Plumbing in garages shall be frost proofed by approved methods.
- O. Trusses shall be designed to carry the extra load of the equipment that will be installed in attic locations. Also a raised passageway and a raised platform shall be installed so R-30 Insulation may be installed under these areas.
- P. For tile installations on walls and ceilings in tub and shower enclosures use cement backer board only. (or approved material made for that use).

NOTE: A Plumbing chase detail is required for vents through the roof on log or "A" frame homes.

Q. Furnace and water heater:

1. Show locations on plans for furnaces, wall heaters, decorative appliances, unit heaters and water heaters.
2. Furnaces and water heaters shall not be located in bedrooms, bathrooms, toilet rooms, clothes closets or under stairs. Decorative, wall and unit heating appliances may be in bedrooms (Direct vent only). Un-vented decorative appliances, fireplaces, and room heaters are not allowed regardless of the location or type of fuel.
3. Furnace closets shall be at least 12" wider than the furnaces.
4. Furnaces and water heaters located in garages shall be 18" above the floor, and barricades will be required when in vehicle path.

**NOTE: Washers and dryers shall not be located in garage unless 18" off floor.
Washer and dryers in rooms adjacent to garages or in storage rooms shall be installed on a platform 8" above the garage floor.**

5. Furnaces access:

- a. Furnaces in closets shall be accessed by a 2' door.
 - b. Furnaces in crawl spaces and attics shall be accessed by a 30" x 30" opening with door. A 20" x 30" attic access may be used if the furnace is removable through that space.
 - c. The access shall be within 20' of the furnace.
 - d. There shall be a switch at the access, a light at the furnace and an outlet within 25'.
 - e. Attic furnaces shall have a 30"sq. work platform and a 24" wide access platform.
6. Furnaces, water heaters and dryers burning L.P. gas shall not be located in a pit or basement. Such furnaces located in an unoccupied, under floor space shall have a means for removing any unburned gas.
 7. Show methods of supplying combustion air for gas fired furnaces and water heaters. Exception: Direct Vent appliances. All gas furnaces and water heaters shall have the combustion air drawn from outside sources. L.P. Gas appliances closets shall have no opening connection with a crawl space or basement.

NOTE: Sizes of combustion air openings are required for gas appliances.

8. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall: be installed as per 2006 International Plumbing Code Section 504.6 and the International Residential Code Section P2803.6.1; not be directly connected to the drainage system; be of approved material and size of pipe, with a air gap; discharge in a manner that does not cause personal injury or structural damage and that is readily observable by the building occupants; not be trapped or terminate more than 6 inches (152 mm) above the floor or waste receptor; not have a threaded connection at the end of such piping or valves or tee fittings.
9. Where water heaters or hot water storage tanks are installed in locations where leakage of the tanks or connections will cause damage, the tank or water heater shall be installed in a galvanized steel pan having a minimum thickness of 24 gages, or other pans approved for such use.
10. The pan shall be not less than 1.5 inches (38 mm) deep and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a minimum diameter of 0.75 inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table 605.4.
11. The pan drain shall extend full-size and terminate over a suitably located indirect waste receptor or floor drain or extend to the exterior of the building and terminate not less than 6 inches (152 mm) and not more than 24 inches (610 mm) above the adjacent ground surface.

12. Auxiliary drain pan. Category IV condensing appliances shall be provided with an auxiliary drain pan where damage to any building component will occur as a result of stoppage in the condensate drainage system. Such pan shall be installed in accordance with the applicable provisions of Section M1411.

Exception: **An auxiliary drain pan shall not be required for appliances that automatically shut down operation in the event of a stoppage in the condensate drainage system.**

R. Wood stoves, Fireplaces, and Decorative Appliances:

1. Types of floor and wall protection labeled.
 2. Clearances dimensioned. Hearth dimensioned.
 3. Gas log and log lighter identified. Damper fixed open. (Listed appliances only).
 4. Appliances in bedrooms shall be direct vent appliances only.
 5. Fireplaces in bedrooms shall have outside combustion air and doors on the fireplace front.
 6. Provide manufacture's specifications.
- S. Range hood, dryer vent and exhaust fans shall vent to the outside. Dryers in closets shall be provided with 100 square inches of make-up air through the door or other approved means.

VIII. SECOND FLOOR FRAMING PLAN: -- Scaled 1/4" equals one (1) foot

- A. Beams and headers, indicate length of spans and size (above).
- B. Floor joist, size, spacing, and direction (above) blocking.
- C. Bearing walls and bearing points called out.
- D. Framing head-outs for stairs, chimneys and mechanical.

IX. Electric plan:

A. Receptacle locations:

1. within 6' of wall openings, 12' O.C. maximum along walls.
 2. Any wall space 24" or wider.
 3. Kitchen counter top spaces: 12" and wider, every 48" O.C., and any portion more than 24". One minimum for a peninsula or island counter top.
 4. Bathroom sinks locations.
 5. within 6' of automatic washer.
 6. One minimum at each location: garage, storage, exterior by front and back doors, basements.
 7. Hallways: one for each 10' length.
- B. Switched light fixture locations: foyers, hallways, stairs (3-way), kitchens, bathrooms, attached garage, exterior doors, utility rooms, and basements, attics and crawl spaces containing equipment or storage.
- C. Switched receptacle locations: living, dining, and family rooms, dens, studies, lofts and bedrooms.
- D. GFCI receptacles: GFCI protected in bathrooms, kitchens at all counter tops, laundry and wet bar sinks, garage, outside where grade accessible, in crawl spaces and unfinished basements. Dedicated appliances in these locations do not require GFCI protections.
- E. All bedroom receptacles and lighting outlets shall have arc-fault protection. (Except smoke detectors).
- F. Size of electric service and sub-panel and their locations.

G. Type of grounding:

1. #4 uffer ground; optional 2 - 1/2" x 8' ground rod with #4 G.E.C. (pier construction as approval by Building Official only).
2. #4 water bond for 200 amp service, or #6 water bond 100 amp service.

H. Electric base board heat (rough wire only minimum) required as back up for wood stove and solar systems, or use gas heating appliances.

I. Required circuits

1. Two 20 amp small appliance circuits in kitchen, dining and pantry.
2. One 20 amp laundry circuit; separate circuit for dryer.
3. One 20 amp branch circuit for bathroom receptacles with no other outlets.
4. One circuit for each major appliance or dedicated load sized per name plate rating.
5. Lighting circuits: calculate 3 watts per square foot.
6. Indicate the number of electrical circuits to be installed.

J. Load calculations and one line diagrams (Commercial plans and when required by the Building Official).

NOTE: Electric plan may be a separate drawing and not included on the floor plan.

K. **Smoke detector locations:** A minimum of one (1) per each area:

1. Out-side each separate sleeping area in the immediate vicinity of the bedroom.
2. Each bedroom, similar room or common space room which could be used for sleeping purposes and in other location as specified by this section.
3. All Attached Garages, basements, workshops, and storage areas.
4. In vaulted ceilings 12" to 18" below peak or ridge beam, and when ceiling elevations differ by 24" or more.
5. Houses more than one story or split levels, one per each level.
6. All smoke detectors shall be wired to sound together and be equipped with battery back-up.

X. **ELEVATIONS:** Scale 1/4" equals one (1) foot (front, right and left sides, and rear views)

- A. Two dimensional drawings. Outside views showing structure completed.
- B. Four (4) elevations minimum for SFD
- C. Two (2) elevations minimum for all other residential projects, unless other wised required.
- D. Door and window sizes and locations. Show safety glass locations.
- E. Type of siding or exterior wall covering. Flashing -- roof to wall.
- F. Show planters and other building projections.
- G. Bracing for wall sections.
- H. Over-hangs dimensioned.
- I. Roof ventilation: gable end, soffit and ridge, turbine type vents. Roof venting shall meet 1 square foot per 150 square feet. Hi/Low venting shall meet 1 square foot per 300 square feet of area.
- J. Chimney:
 1. Type of construction, flashing at roof, saddles or crickets.
 2. Height above ridge labeled.
 3. Spark arrestor.
 4. Shall be 2' above any part of the roof within 10'

K. Decks and porches shall be shown:

1. Decks 30" or more above grade shall have guard rails 36" high with all spaces less than 4".
2. Post and beam sizes shall be labeled.
3. Steps to grade onto a required landing.
4. Posts on piers - 8" above grade.
5. Posts on porch slabs - 6" above grade, 1" above adjacent slab.

L. Footings outlined: Show accurate grade line, show stepped foundation locations.

M. Building height dimensioned: elevations of two or more story buildings shall show an accurate grade line to determine actual heights of the building. Maximum building height shall be determined by Planning and Zoning, as per to the County Zoning Ordinance.

XI. **ROOF FRAMING PLAN:** 1/4" equals one (1) foot. Check live loads for your location:

- A. Load bearing beams, door and window header, sizes and indicate length of span.
- B. Garage headers. Size and span.
- C. Post locations and supporting beams.
- D. Rafter sizes, direction and spacing. Ceiling joists.
- E. Truss direction and spacing (engineered). Provide engineered truss specification details.
- F. Ridge, valleys and hips sizes and labeled.
- G. Blocking and bracing locations.
- H. Show all covered deck roof framing.

XII. **CROSS SECTION:** 1/4" equals one (1) foot or larger

- A. Make visible all construction elements.
- B. Call out all rough construction elements: Anchor bolts, 1/2" x 10" at 4' O.C. and within 12" of the ends of plates into a reinforced cell.
 1. Footing and stem.
 2. Girders and joists -- size and spacing, blocking; or slab with fill.
 3. Studs -- size and spacing.
 4. Floor and roof sheathing, type and size.
 - a. Rated flooring, to be tongue and groove, 5/8" on members 16" O.C., 3/4" on members 24" O.C.
 - b. 5/8" roof sheathing for tile roofs with a panel rating of 40/20 minimum.
 - c. 1/2" rated roof sheathing on slopes 5:12 and less, use ply clips when members are spaced 24" O.C. All roof sheathing shall have a minimum panel rating of 32/16.
 5. Rafters, size and spacing. Engineered trusses or I-joist, type and spacing.

NOTE: Engineered truss and I-joist details are required.

6. Roof blocking -- each space at bearing. Hurricane ties, wall to roof member at 4' O.C.
7. Girders ridge and beams.
8. Insulation (R-30 first floor, walls and R-38 roof/ceiling).
9. Anchor straps for houses when horizontal siding, stucco and brick veneer is used, installed at 4' O.C. from sill plate to wall and from wall to floor to wall.
10. Show bracing material for exterior and interior braced walls lines, and at trusses, at ends and 25' O.C.

11. Spray foam insulation type Open cell (7" minimum) or Closed cell (5 - 1/2" with framing members covered with 1/2" material minimum) or as determined by manufactures specifications for R - value. Provide manufactures specifications at time of plan submittal.

NOTE: Sprayed foam insulation shall be a tested, listed and labeled product as recognized by model code agency.

C. Call out all finish elements:

1. Drywall or interior wall and ceiling finishes.
2. Moisture barrier -- approved panel siding or sheathing, 15# felt, approved thermal wrap, or thermal barrier panels.
3. Exterior siding approved on stud spacing. Stucco or brick veneer.
4. Base board.
5. Finish floor.
6. Floor covering.

D. Dimensions:

1. Ceiling heights
2. Door and window heights
3. Maximum sill height for emergency exit windows.
4. Under floor clearance
5. Minimum wood to earth separations.
6. Footing depth below grade.

E. Roof over-hang and attic space:

1. Fascia size and material. Drip edge required.
2. Over-hangs shown and dimensioned.
3. Soffit: blocks or exterior plywood, drip molding and edge, ice shield.
4. Anchor straps (wall to roof member), at 4' O.C.
5. Roof ventilation. Method for soffit venting.
6. Sever climate - in all areas of Coconino County (except Page, Tuba City) roof eaves shall be protected as follows: asphalt shingles – #40 coated roofing, with laps cemented together, installed on the eave and beyond the interior wall line 24". Wood shingles and shakes - two additional layers of 15# felt applied shingle fashion, solidly cemented together, installed on the eave and beyond the interior wall line 36".

F. Stair information and / or detail:

1. Dimension unit rise (7 3/4" maximum), unit tread (10" minimum) and head room (6'8" minimum) and landings.
2. Show handrail or guardrail. Handrail required 4 or more risers. Handrails and guardrails on stairs shall be installed between 34" to 38" above the nose of the tread. **The installation of a diagonal riser that cuts a landing into two (2) treads shall not be allowed.**
3. Where a stairway of two or fewer risers is located on the exterior side of a door, other than the required exit door, a landing is not required for the exterior side of the door provided the door, other than an exterior storm or screen door does not swing over the stairway.

NOTE: This information may be labeled on the floor plan.

XIII. DETAILS-- Scale 1/2" equals one (1) foot or larger

- A. Footing Materials, sizes, rebar, (horizontal and vertical) depth below grade, sill plates, anchor bolts, connectors.
- B. Stem wall and straps (see County Details).
- C. Piers, pilasters, beam pockets, pylon footings and anchors.
- D. Masonry walls and columns slab to stem wall. Basement foundation.
- E. Special details: ridge, over-hang, plate connections, beam to joist.
- F. **Typical wall sections** -- All exterior walls shall be fully sheathed unless sheer rate panel siding is used. Wall construction shall be covered with approved building wrap.
- G. Retaining wall: engineer may be required.
- H. Masonry fireplace -- plan and section: footing, block, rebar, lintels, fire box, hearth, and chimney. Show 2" clearance to combustibles.
- I. Specifications: designer or architect's remarks (not necessarily required).
- J. Engineer required: masonry fireplaces and chimneys supporting beams or ledgers. Masonry columns in excess of 12'. Retaining walls in excess of 8'. Alternate construction methods. Soil fills supporting structures. Basement foundation walls in excess of 10'.

XIV. LOG HOME SPECIFICATIONS

- A. All logs used in log construction shall be graded and stamped by a certified lumber grading agency. Logs which will be used for the walls do not require a stamp provided a letter is submitted by the supplier identifying the grade, species, and moisture content of the log.
- B. Plans for log homes or log structures shall include:
 - 1. Species and grade of logs used.
 - 2. Moisture content of logs, if the moisture content of the logs is excessive, greater than 19%, the home shall be designed for settlement and the plans shall show the methods and details for that purpose.
 - 3. Method of installation for logs.
 - 4. Types of fasteners used and spacing requirements.
 - 5. Provisions for settling at all wall openings, load bearing posts, fireplaces, interior frame partitions, staircases, plumbing lines and all non-settling portions of the building.
 - 6. Type of materials and methods used to seal and chink the logs.
- C. Additional plans required for log homes shall include the architectural plans for a typical single family dwelling.
- D. Plans must be stamped by a professional architect or civil / structural engineer licensed to practice in the state of Arizona when:
 - 1. Log structural members are used for other than wall logs. i.e.: main ridge beams, roof beams, rafters, roof purlins, posts, floor girders, floor joist, or other similar applications.
 - 2. The log structure exceeds two stories in height.
- E. Plans required to be sealed by an architect or engineer, must contain the following information:
- F. The grade, species and moisture content of the structural logs.
- G. The fiber bending stress value of the logs.
- H. The design loads for the roof, floor and deck log members.
- I. Engineering calculations for all applicable log structural members.
- J. Provisions shall be made for all plumbing, electrical and mechanical in solid log construction.
- K. The plans shall show details on the installation of these systems.

XV. IMPORTANT INFORMATION FOR PLAN REVIEWS

- A. Indicate the kind and grade of lumber to be used. All lumber shall be graded and stamped.
- B. Indicate the type of heating to be used.
- C. Indicate which appliances will be fueled by gas.
- D. Provide plumbing details for A-frames and log cabins prior to submitting a permit application. (See log home specification requirements.)
- E. When a plan is approved by the building division, future plans for the same house shall have all prior deficiencies corrected when submitted.
- F. When the pre-construction soil investigation encounters clay soil at a building site, an engineer licensed in the state of Arizona must perform the footing design. A **STOP WORK** notice will be issued at the first inspection, if expansive soils are encountered.

XVI. ARCHITECT AND ENGINEER REQUIREMENTS

The following list of plans and details shall be designed and stamped by an architect or engineer registered by the state of Arizona, Board of Technical Registration.

- A. New construction, additions and alterations for buildings of 3,000 square feet or more shall require an architect's stamp. (Exception – single family dwelling)
- B. Any building with an occupant load of 20' or more shall require an architect's stamp. (Exception – single family dwelling)
- C. Any Public Works building shall require an architect's stamp.
- D. Roof and floor trusses over 20', unless the design is by an approved manufacturer.
- E. Basement foundation walls in excess of 10' in height and/or retaining 8' or more of soil.
- F. Any wall retaining an excess of 8' of soil.
- G. Any prow wall and tall walls that are greater than 16 feet in height for 50 percent of the wall.
- H. Fill material for support of any bearing footing.
- I. Exterior and interior bearing footings shall be designed and stamped by an engineer when the footings do not extend into undisturbed soil.
- J. Fill placed on a parcel of land such as a building pad or supporting a building slab in excess of 4', shall be designed by an engineer as to the composition, placement, compaction and frequency of soils test and soils tests and reports shall be provided.
- K. Fireplace and chimney columns used as structural supports.
- L. Masonry columns in excess of 12' in height.
- M. Structural log construction, for girders, joist, rafters, post and beams, etc. Wall logs excluded with approved stacking and joining methods.
- N. Any communications tower.
- O. Any project where the complexity warrants the design by an engineer as determined by the Building Official.
- P. Any structural steel building shall be designed for snow load, wind speed and seismic zone, check with Coconino County Building Department for requirements. Engineered steel structures sized 1000 sq. ft. or larger shall have the design and the plans stamped by an engineer licensed in the State of Arizona for the structure and foundations. For steel buildings less than 1000 square feet the building shall be design and plans stamped by an engineer licensed in the State of Arizona or as approved by the Building Official, and foundation for these steel building may be designed by others.
- Q. Any suspended concrete slab supporting a live load.
- R. Masonry lintels with a span greater than 8'.
- S. Foundation details constructed using the drilling and pinning method in the frost zone and the bed roc is within 18" to natural grade, or large boulders with in 12" to natural grade.
- T. Foundations constructed in expansive clay soils.

XVII. REVISIONS: Changes in approved plans shall be submitted by means of new drawings or addendum letters **PRIOR** to the start of that particular work.

XVIII. CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA – COCONINO COUNTY

A. SNOW LOADS - Amend IBC 1608. By adding the following:

Snow Loads for roof design shall be considered as a non-reducible live load on the roof. The Ground Snow Load shall be a minimum of fifteen (15) pounds per square foot greater than the listed Snow Load for the following areas:

1. Fifty (50) pounds per square foot:

- a. Hart Prairie
- b. Kendrick Park
- c. Jacob Lake and the North Rim
- d. Any building site at an elevation of 8000 feet or more above sea level.

2. Forty (40) pounds per square foot:

- a. Areas surrounding Flagstaff
- b. Doney Park
- c. Valle
- d. Tusayan
- e. Parks
- f. Areas surrounding Williams
- g. Clear Creek Pines
- h. Starlight Pines
- i. Happy Jack
- j. Forest Lakes
- k. Mormon Lake
- l. Kachina Village
- m. Mountaineer
- n. Pinewood

3. Thirty (30) pounds per square foot

- a. Cameron
- b. Tuba city
- c. Areas between Twin Arrows and Winslow
- d. Oak Creek Canyon
- e. Areas surrounding Ash Fork and Seligman
- f. Areas surrounding Fredonia
- g. Alpine Ranchos and Leupp

4. Twenty (20) pounds per square foot

- a. Greenhaven
- b. Marble Canyon

K. Wind Speed – 90 Miles per Hour. (105 Miles per Hour, 3 second wind gust)

L. Seismic Design Category – Do

Exception: When determined by a Geotechnical Engineer that the site class is rated A, B or C, based on the soils testing, then the buildings may be designed to a seismic design category C. **IBC 1613.1**

M. Weathering – Moderate

N. Frost Line – Frost line Depth shall be thirty (30”) inches in Coconino County with the exception of Oak Creek/Sedona, Marble Canyon, and Greenhaven, where depth shall be twenty-four (24”) inches.

Exception: Detached accessory structures located in residential zones for private use, sized less than one thousand (1,000') square feet, single story, and may have a foundation depth of eighteen (18") inches into undisturbed soil.

Detached accessory structures of light frame construction such as storage sheds in residential zones for private use, sized four hundred (400') square feet or less may be grade set on pressure treated skids and shall be anchored with approved methods

- O. **Termite** – Site Specific: When treatment is required by other agencies or lending institutions, then the report shall be filed with the permit from the Coconino County Building Department
- P. **Ice Barrier Underlayment Required.** – All areas of Coconino County, Except: Marble Canyon and Greentown.
- Q. **Flood Hazard** – the Flood Plain Administrator is the Director of Coconino County Community Development.
- R. **Clay Soils** - When clay soils are encountered at a building site as determined by a pre-construction soil investigation the footing design shall be done by an engineer licensed in The State of Arizona. If Inspector finds a condition exists in the first inspection a STOP WORK will be issued. Then a geotechnical report shall be submitted to the Building Department with an engineered footing design.
- S. 5/8" Type X gypsum board required on detached garages, 1,000 square feet or larger or considered 2 stories when within 25' feet of single family dwelling or within 20' feet of property lines.
- K. Trusses and joists shall be designed to carry the extra load of heating or other equipment that will be installed in attic locations. Also a raised passageway and a raised platform shall minimum for a 12" inch space for the installed of R-38 the insulation may be installed under these areas.
- L. Use insulation baffles for air circulation or raised heel trusses. R- 30 for vaulted ceilings. In vaulted ceilings, air circulation and venting shall be maintained above the insulation by deeper roof framing or insulation baffles running continuous up the roof structure. Use approved methods for venting.
- M. **MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS – Amend IRC Table R301.5 as follows:**
 - 1. Attics – See Amendment number 20.
 - 2. Decks and Exterior Balconies – 60 pounds per square foot.
 - 3. Sleeping Rooms – 40 pounds per square foot.
 - 4. Habitable Space – 40 pounds per square foot.
 - 5. Storage Rooms – 60 pounds per square foot.

XIX. PREVIOUSLY SUBMITTED PLANS

When a plan is approved by our department, future plans for the same house shall have all corrections made when submitted. Also, contractors and individuals who obtain permits at consistent intervals and know our Building Department policies should make their best effort to have all information we request on their plans.

XX. List of Home Owner Approvals that are required and shall meet the following standards.

- A. A letter of approval from the Home Owner Association.
- B. All pages of both sets of plans shall be stamped with an original stamp as approved by the Home Owner Association. No copies of approved stamps will be accepted.

This shall be done before plans may be submitted to the Coconino County Building Division for plan review. Any set of plans for which Home Owner Association approval is required will not be accepted by the Building Division for plan review without these new standardized requirements.

- 1. Aspen Shadows
- 2. Bear Park
- 3. Blue Ridge Estates
- 4. Cosnino Equestrian
- 5. Flagstaff Ranch Golf Club
- 6. Forest Highlands
- 7. Foxboro Ranch Estates
- 8. Greenehaven
- 9. Highland meadows
- 10. Howard Mesa Ranch
- 11. Lockett Estates
- 12. Lockett Ranches
- 13. Mogollon Ranch
- 14. Pine Canyon
- 15. Red Lake Estates, Unit 1 and Unit 2
- 16. Sacred Peaks
- 17. Slayton Ranch Estates
- 18. South Rim Ranch
- 19. South Rim Manufactured Home Park
- 20. Starlight Pines
- 21. Starlight Pines Ranchettes
- 22. Sunset Vista
- 23. Tamarron Pines

XXI. ARIZONA BLUE STAKE shall identify and mark underground facilities, wherever excavations are scheduled. Call two working days before you dig. **CALL BEFORE YOU DIG! 1-800-782-5348.**

XXII. ARIZONA PUBLIC SERVICE shall be contacted for locations, specifications, and information concerning new electric service installation at (928) 773-6414. For information to have an electric service energized or for temporary power, contact APS at (928) 779-6911 (or toll free at 1-800-253-9405). APS is located at 101 W. Cherry, Flagstaff, Arizona 86001.

**Coconino County Community Development
Contact Phone: (928)-679-8850**